StruxureWare™
Power Management Software

StruxureWare Power Management software

Dashboard sample

A choice of powerful, effective solutions

StruxureWare™ power management software provides a complete power management supervisory interface that gives you give you access from anywhere to your entire electrical network. It helps you maximise energy efficiency and cut energy-related costs, avoid power-quality related equipment failures and downtime, and increase network-wide operational efficiency. It is ideal for all power critical facilities, including industrial operations, large commercial and institutional buildings, data centres, healthcare sites, and utilities.

The software converts energy-related data into timely, accurate information for you to act on. Track real-time power conditions, analyze power quality and reliability, and respond quickly to alarms to avoid critical situations. Our power management software provides extensive analysis and reporting tools, intuitive visualization and control interfaces, and flexible, scalable architectures that can meet your unique needs today and continue to do so well into the future. The depth of different offerings makes it easy to match a product to your goals, your business and your budget.

Extensive reach and flexibility

Software forms an important part of your overall energy efficiency and reliability solutions from Schneider Electric. Power management software can grow with your business, giving you the level of energy intelligence and control you need to reduce energy consumption and costs, minimise environmental impacts, prolong equipment life, and assure power availability, uptime and safety.

Each product collects energy-related data from a variety of sources, including PowerLogic or third-party meters and sensors. Some products offer integration with other Schneider Electric or third-party automation systems, and other energy-relevant information feeds.

Object-based, standard graphics and symbols provide operators with an interactive and user-friendly interface. Intuitive commands and controls increase efficiency of operators to interact with the system interface.

StruxureWare power management software controls your system with high reliability, performance and data integrity through the use of advanced architectures, such as hot/warm redundant I/O device configurations, self-healing ring communications, and primary and standby server configurations. Comprehensive user-based security is integrated into all interface elements, ensuring a secure control system.

■ Meet or exceed power reliability requirements within budget constraints.
■ Avoid or mitigate power quality issues to reduce duration or eliminate outages.
■ Enable proactive system maintenance to avoid equipment failures.
■ Comply with corporate or regulatory energy standards like ISO 50001.
■ Ensure the comfort and safety of staff and equipment.

System requirements

Whether you're building a new system or enhancing an existing operation, a Schneider Electric representative will advise you on complete system requirements and commissioning information for StruxureWare power management software.

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Applications for power critical facilities

Category		Application
	Energy efficiency & cost	Energy usage analysis
		Cost allocation
		Procurement optimisation
		Peak demand reduction
		Demand response and curtailment
		Power factor correction
	Power availability & reliability	Electrical distribution (ED)
		Power quality analysis and compliance
		ED commissioning, monitoring, and troubleshooting
		ED alarming and events
	Asset management	Capacity planning
		Generator monitoring
		Breaker aging management
		UPS battery monitoring

Typical applications
StruxureWare power management software has many applications:

■ Monitor the facility electrical network and verify reliable operation.
■ Improve response to power-related events and restore operations quickly.
■ Analyze and isolate the source of power quality problems.
■ Analyze energy use to identify waste and reduce cost.
■ Estimate utility bills to verify accuracy and identify errors.
■ Allocate energy costs to departments to drive accountability and awareness.
■ Reduce peak demand surcharges and power factor penalties.
■ Idenfity excess capacity in existing infrastructure and avoid over-building.
■ Support proactive maintenance to prolong asset life.
■ Network protection and control.
■ Operate distribution network safely and reliably.
■ Improve continuity of electrical service.
■ Equipment monitoring and control.
■ Energy availability and reliability.
■ Verify the reliable operation of equipment.
■ Support proactive maintenance to prolong asset life.

For electric utilities:

■ Improve T&D network reliability.
■ Enhance substation automation.
■ Maximise the use of existing infrastructure.
■ Verify compliance with new power quality standards.
■ Analyse and isolate the source of power quality problems.
■ Help customers manage reliability using operational and power quality data.

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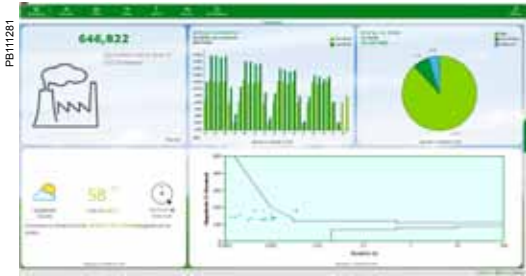
Dashboard - Energy Summary (sample)

Scalable, flexible architecture
Functional components
Provides operators with a rich environment to view and navigate real-time displays of measurements and status indicators; perform power quality and reliability analysis; historical trending; alarms; and manual control. This software offers secure, operator-dedicated, multi-user data and control access through a local server interface, full control client and also via web clients.
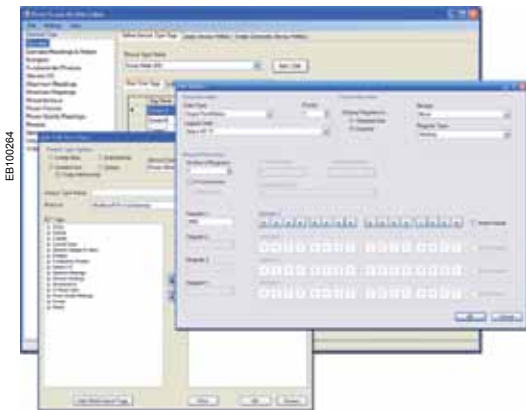
Web Clients
Access power monitoring system from anywhere on your network using a web browser. Day-to-day functionality including system status, alarm response, or viewing dashboards. Web client provides authenticated access to common functions:
■ Diagrams – navigate network displays to check system status and analyze trends.
■ Tables – quickly compare multiple devices in your network in real-time.
■ Reports – generate or edit historical reports for energy cost, consumption, and power quality.
■ Alarms – quickly identify alarm states in your system and investigate root causes.
■ Dashboards – share information from your power monitoring system with any occupant.

Engineering Workstations
Client software gives engineers and power users access to administrative and configuration functions of the software, and real-time display, control, and historical analysis functions.
■ Build and edit custom graphical displays to represent your facility. One-line diagrams, campus maps, equipment plan views and mimic diagrams are easily created using Vista graphical objects and imported graphic files.
■ Use the designer interface to program ION devices and create system applications with ION Technology and Virtual ION ProcessorsReporter - generate or edit historical reporst for energy cost, consumption, and power quality.

Data acquisition and management
■ Communicate with over 300 different powerlog and third-party meters.
■ Scale from 1 to 1000s of devices.
■ Perform advanced logic and arithmetic operations on real-time and historical data.
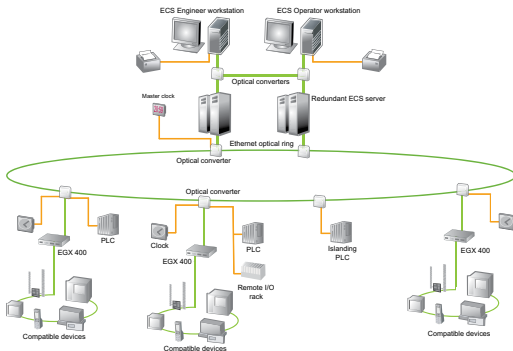■ Use web services to interoperate and integrate with other software platforms.

Easily edit pages to depict your entire system

Load profiles, comparisons, and energy allocation

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Functions

StruxureWare power management software offers a wide range of functions:

- Data acquisition and integration.
- Real-time monitoring.
- Trend analysis.
- Power quality analysis.
- Alarms and events.
- Reporting.
- Dashboards.
- Manual and automated control.

Data acquisition and integration

Integrate WAGES (Water, Air, Gas, Electricity, Steam) metering. Native, out-of-the-box support for dozens of devices (See Supported Devices section for details).

- Enables access to real-time and timestamped historical meter data, control of on-board relays and digital outputs, and server time synchronization. Communicate over Internet, Ethernet, wireless.
- Interface with third-party meters, transducers, PLCs, RTUs and power distribution or mitigation equipment through Modbus or OPC.
- Add and configure direct communications with remote devices over Modbus RTU or Modbus TCP protocols using easy-to-use device templates.

The scalable platform enables remote device and user client addition as needs grow while maintaining original investment. Integrate other energy management or automation systems (e.g. SCADA, BAC, DCS, ERP) through ODBC, XML, OPC, email, FTP, CSV and PQDIF compliance; integrate with web services through XML.

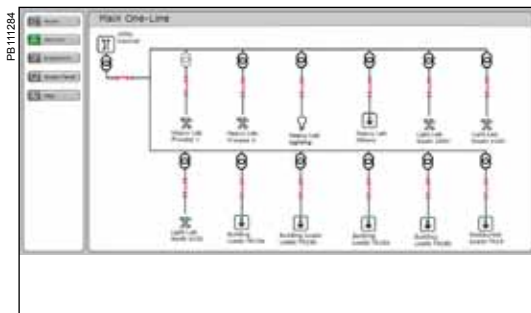*Consumption details by area and load type*

Real-time monitoring

View the status of your electrical network from any workstation:
- See numeric values, status indicators, gauges, and trends, all with intuitive graphical navigation.
- Extend comprehensive out-of-the-box displays and create custom graphical diagrams to represent your facility; one-line diagrams, campus maps, equipment plan views and mimic diagrams can be created using embedded graphical objects and imported graphic files.
- Quickly compare multiple devices in your network in real-time in a tabular display.
- Choose from a library of pre-built tables, or create your own. Save your favorites for quick access later.

Equipment Status example

Trend analysis
- Trend parameters to reveal demand peaks and track system-wide energy costs.
- Graph any combination of measured parameters.
- Plot time-series or scatter charts.
- Perform calculations, obtain statistics, and display historical data.
- Identify dangerous trends and redistribute loads.
- Optimise network capacity and avoid over-building.
- View operating parameters and determine when maintenance is required.
- Avoid peak demand surcharges and power factor penalties.

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Applications allow users to easily create trend plots and analyze historical data.

Users can view and analyze waveforms captured by devices.

*Load profile dashboard (sample)*

Power quality analysis

StruxureWare power management software allows continuous, wide-area monitoring and data capture for power quality and reliability conditions.

■ Power quality events automatically detected by PQ-capable metering devices are uploded to the system automatically. Analyze waveforms to determine source and cause of issue.

■ Determine if power quality events are upstream or downstream (using PowerLogic meters with Disturbance Direction Detection feature).

■ IEC 61000-4-30 and EN50160 compliance reporting verifies power quality performance to international standards and allows you to quickly review power quality indices as numeric charts or graphic profiles (using PowerLogic meters to support compliance monitoring).

■ Display harmonic histograms, odd/even harmonics, THD, K-factor, crest factor, phasor diagrams, and symmetrical components.

■ Plot waveforms of up to many seconds in duration, with overlays that correlate phase-to-phase relationships between voltages, currents, and cascading failures.

■ Plot sags, swells, short duration transients and other disturbance events on industry-standard voltage tolerance curves, including ITIC (CBEMA) and SEMI.

■ Display for any event a list of associated time-stamped incidents, then click on any incident to see more detailed information.

Alarms and events

Receive alerts to outages or impending problems that could lead to equipment stress, failures, or downtime.

■ Quickly filter on active or unacknowledged alarms.
■ Acknowledge alarms from anywhere in your facility.
■ Trigger on complex conditions.
■ Log all relevant data sequence of events for diagnosis.
■ Flag and avert potential problems.
■ Alert key personnel 24/7.
■ Optimise maintenance scheduling.
■ Easily discriminate between alarm criticality levels.
■ High speed alarm response.
■ Organise, filter and print by any alarm property. Configure specific alarm occurrences to change symbol color or flash an icon on a page.
■ View the five most recent alarms from every page, providing detailed information in easy-to-understand formats.
■ Event log for all PC-based and on-board field events, alarms.
■ Easily configure to annunciate based on alarm type.
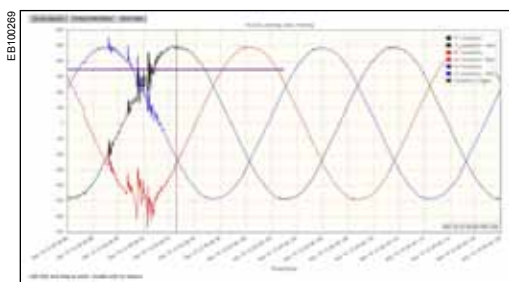
Dashboards

Create engaging dashboard displays of your power monitoring system information and easily share information with anyone in your facility.

■ Make power monitoring information visible and engaging.
■ Promote education and drive behaviour.
■ Display as an interactive kiosk on corporate intranet or on wall-mounted display.
■ Replace hard to maintain home-grown portals and dashboards.
■ Chart or trend any quantity in your power monitoring database.
■ Simply convert into other units (e.g. dollars, emissions, normalizations, etc.).
■ Compare multiple time-ranges.
■ Show impact of temperature, occupancy, or production values on energy usage.
■ Create eye-catching backgrounds to enhance presentation value.
■ User authentication for configuration, and both authenticated and unauthenticated modes available for display.

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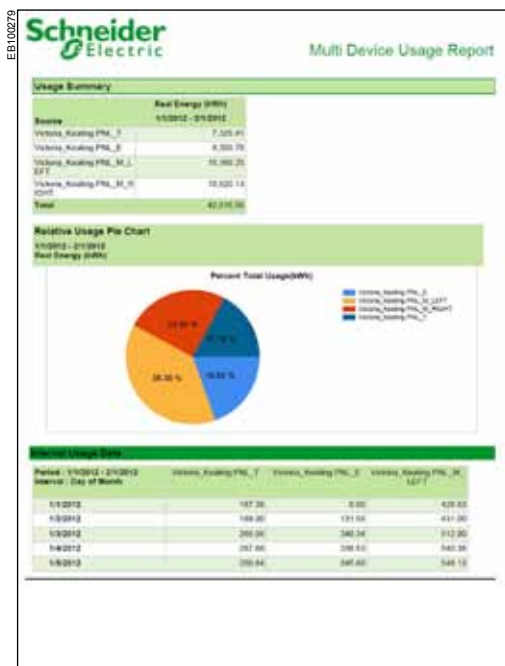
StruxureWare provides many different report templates to allow users to easily display and deliver the information they need .

Power Quality Summary Report example

Reporting

Reports - generate or edit historical reports for energy cost, consumption, and power quality (requires Microsoft SQL Server Standard Edition).

■ Powerful, intuitive reporting options let users see critical information exactly how, where, and when they need it.
■ Reports can be generated manually and saved as Excel, HTML and other formats or scheduled to automatically distribute to a printer or via email.

Configuration tools

Our power management software is supplied with a package of configuration tools designed to make set up uniquely easy and quick.
■ Designed to help make project set up and network configuration fast and easy.
■ Provides standard device types and their associated profiles and allows engineers to easily customise the profiles of the devices specific to the project.
■ Standardized tags per device profile (configurable), XML file.
■ Standard interface for quick database generation:
☐ Instantiation of devices, on a per object basis.
☐ Creates tags, trends, alarms and events when devices are added to system.
☐ Batch editing supported by automation interface.

Manual and automated control

■ Perform fast, manual control operations by clicking on-screen trigger buttons, and operate remote breakers, relays, and other power distribution and mitigation equipment.
■ Perform manual or setpoint-triggered functions.
■ Coordinate control of multiple loads, generators, relays, etc.
■ Support energy-saving applications.
■ Manage distributed energy assets.
■ Automate substations & reduce service time.

Interoperability

■ Integrate all energy management and automation systems (SCADA, BAC, DCS, ERP, etc.)
■ Share data with third-party SCADA, automation, and accounting systems.
■ Comply with ODBC, OPC, and PQDIF standards.

Patented ION technology

StruxureWare power management software and a variety of PowerLogic ION metering products feature the unique ION architecture. This modular, flexible architecture offers extensive customisation of functionality using a simple building block approach. The technology uniquely addresses advanced monitoring and control applications and adapts to changing needs, avoiding obsolescence.

Global solutions

Software is available in many languages - English, French, Spanish, German, and Chinese. Contact your Schneider Electric representative.
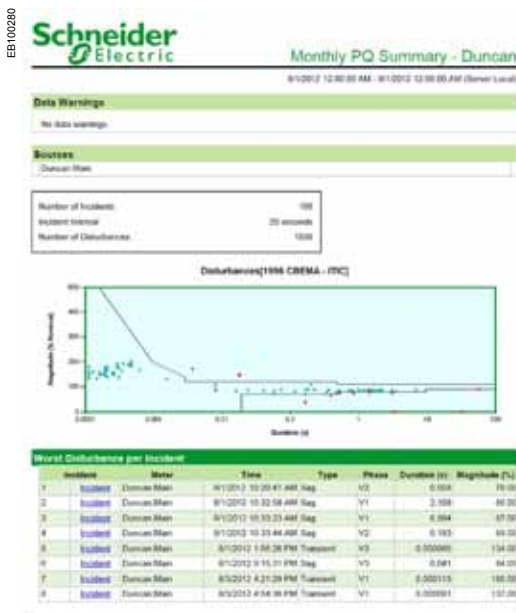
As standards, specifications and designs develop from time to time, please ask
for confirmation of the information given in this document.

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Photos: Schneider Electric

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